

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								

Work Order ID 149394

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149394

Page 2

Item ID: D2804-1 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Bracket
Start Date: 7/11/2016 Start Qty: 12.00 ***12*** Cust Item ID:
Required Date: 7/22/2016 Req'd Qty: 12.00 ***12*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 *130* QC Quality Control	QC8- Inspect parts - second check Memo	0.00 0.04				12	1		DAS 33 9-89 16/08/20
140 *140* HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1 Memo	0.00 0.52				(12)			2016/08/22 BEB
145 *145* QC Quality Control	QC7-Inspect Chemical Conversion Coat Memo	0.00 0.02				(12)			DAS 38 9-89 AUG 23 2016

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Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
BAO 100 100				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

Work Order ID 149394

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149394

Page 3

Item ID: D2804-1 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Bracket
 Start Date: 7/11/2016 Start Qty: 12.00 ***12*** Cust Item ID:
 Required Date: 7/22/2016 Req'd Qty: 12.00 ***12*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	Identify as per dwg & Stock Location: <u>G-A</u>	0.00							
150									
Packaging	Memo	0.02				12x			16/08/29
Packaging									
160	QC21- Final Inspection - Work Order Release	0.00							
160									
QC	Memo	0.20							
Quality Control									

DAS
21
9-89

AUG 2 9 2016

DAS
36
9-89

DQA: _____ Date: _____

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Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

Picklist Print

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Page 1

Work Order ID: 149394

149394

Parent Item: D2804-1

D2804-1

Parent Item Name: Bracket

Start Date: 7/11/2016

Required Date: 7/22/2016

Start Qty: 12.00

Required Qty: 12.00

Comments: IPP A00.11.06New IssueEC
IPP B06.05.30 Blanks on wtjetEC
IPP Rev:C As per Rev C 06-11-09 JLM
IPP Rev:D Removed Tumbling 08-09-09 JLM Verified By:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M6061T6B0.500X10.00 0		Purchased		No			f	25.7000		9			

M6061T6B0 500X10 000

**

see 16/07/30

6061-T6 Bar .500 x 10.00

Location	Loc Qty	Loc Code
MAT	1.7	
M131700	1.7	
MAT001	24	
M134984	24	14.2

DQA: _____ Date: _____

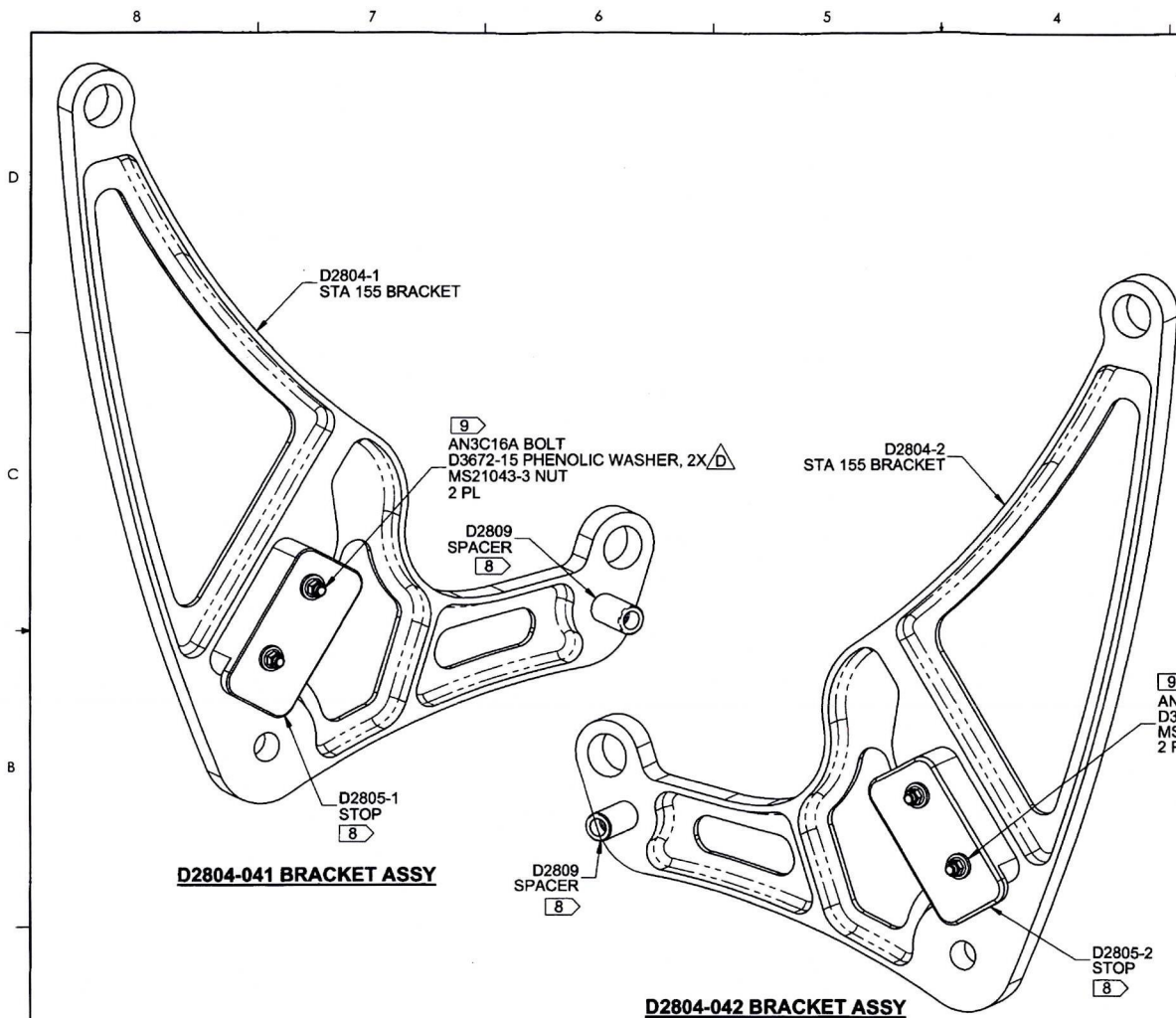


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QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
Past Expiry Date ☐	Manufacturing Process ☐				
Misidentified ☐	Past Due ☐	OTHER : _____			



ITEM	QTY -041	QTY -042	P/N	DESCRIPTION
	X		D2804-041	BRACKET ASSY
		X	D2804-042	BRACKET ASSY
1	1		D2804-1	STA 155 BRACKET
2		1	D2804-2	STA 155 BRACKET
3	1		D2805-1	STOP
4		1	D2805-2	STOP
5	1	1	D2809	SPACER
6	4	4	D3672-15	PHENOLIC WASHER
7	2	2	AN3C16A	BOLT
8	2	2	MS21043-3	NUT, SELF-LOCKING

RELEASED

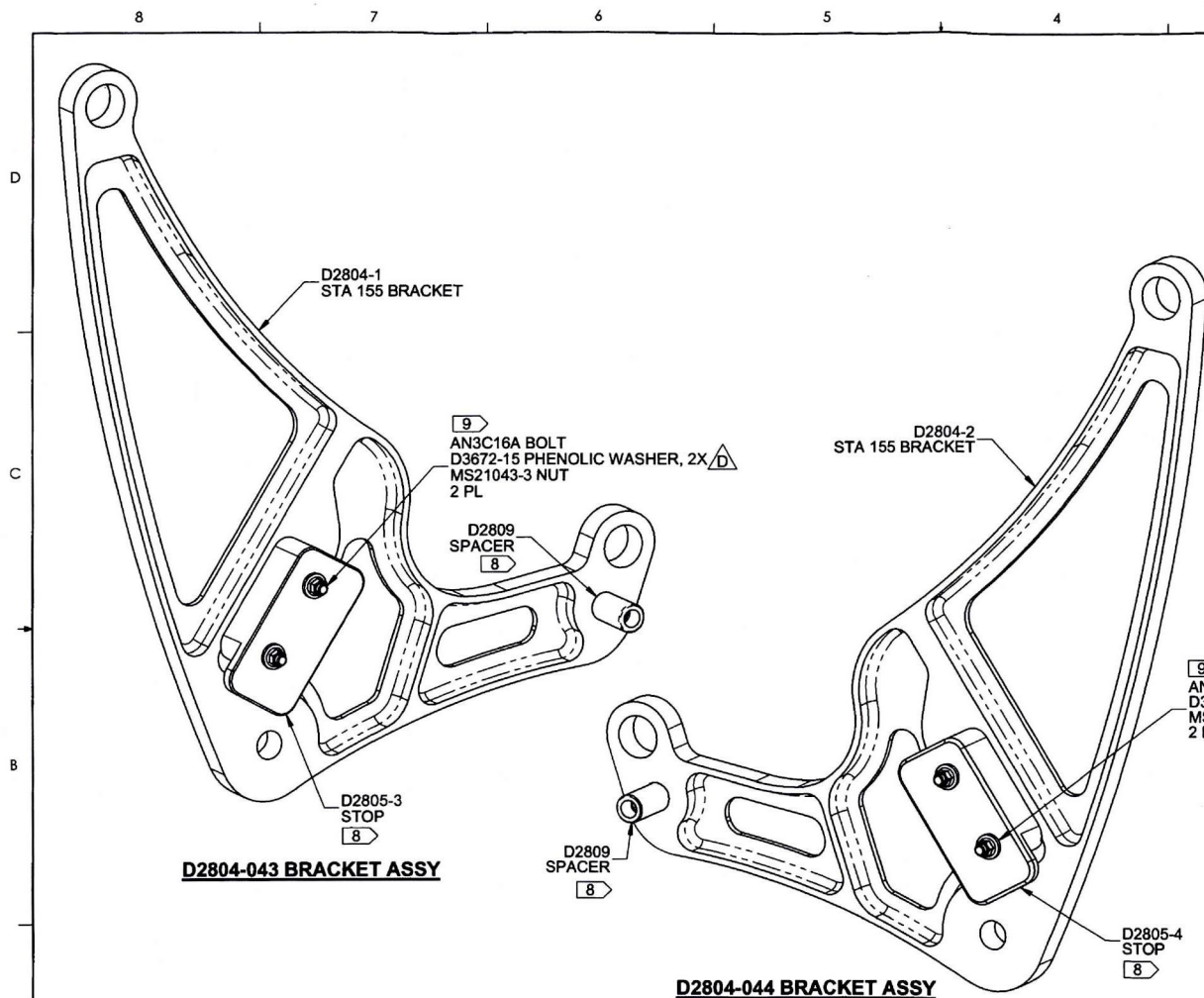
2016 JUN 22 of
ECN 16-664

SW 149394 7/25/16

D	REVISE TO CURRENT FORMAT: D3672-15 WAS NAS1515H3; MS21043-3 WAS MS21042-3; ADD CSINK (SECTIONS E-E AND J-J). REF: PAR16-499. D6-3/4: 2.658 WAS 2.654 REASON: CAD ERROR.	MB	16.04.11
C	CHANGE GEOMETRY TO ADD CLEARANCE	CP	06.10.16
B	ADD CUTOUTS AND -043/-044	CP	04.11.22
A	NEW ISSUE	CP	00.11.07
REV.	DESCRIPTION	BY	DATE
DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	MB		
CHECKED	ML	DRAWING NO.	REV. D
MFG. APPR.	JLM	D2804	SHEET 1 OF 4
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	STA 155 BRACKET	NTS
DATE	16.04.11	COPYRIGHT © 2000 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: POWDER COAT "GLOSS WHITE" (4.3.5.1) OR "GREY SANDEXT" (4.3.5.6) OR "BLACK SANDEXT" (4.3.5.7) OR "GREEN SANDEXT" (4.3.5.8) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER DART QSI 044 6.1
- 7) WEIGHT: 1.37 lbs
- 8) PRESS D2805-X AND D2809 INTO PLACE PRIOR TO POWDER COAT
- 9) INSTALL BOLT WITH LPS-3 CORROSION INHIBITOR, ENSURE NO LPS-3 ON THREADS



ITEM	QTY -043	QTY -044	P/N	DESCRIPTION
	X		D2804-043	BRACKET ASSY
		X	D2804-044	BRACKET ASSY
1	1		D2804-1	STA 155 BRACKET
2		1	D2804-2	STA 155 BRACKET
3	1		D2805-3	STOP
4		1	D2805-4	STOP
5	1	1	D2809	SPACER
6	4	4	D3672-15	PHENOLIC WASHER
7	2	2	AN3C16A	BOLT
8	2	2	MS21043-3	NUT, SELF-LOCKING

△ D

△ D

RELEASED

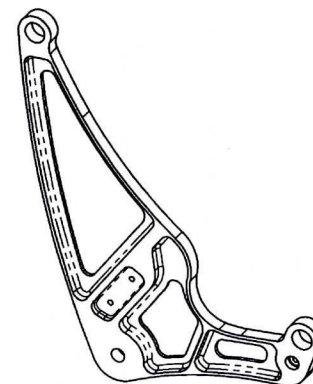
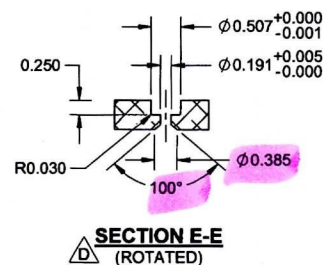
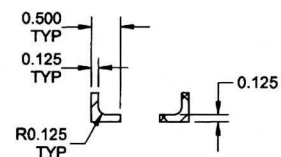
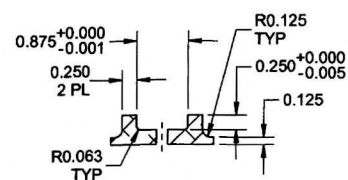
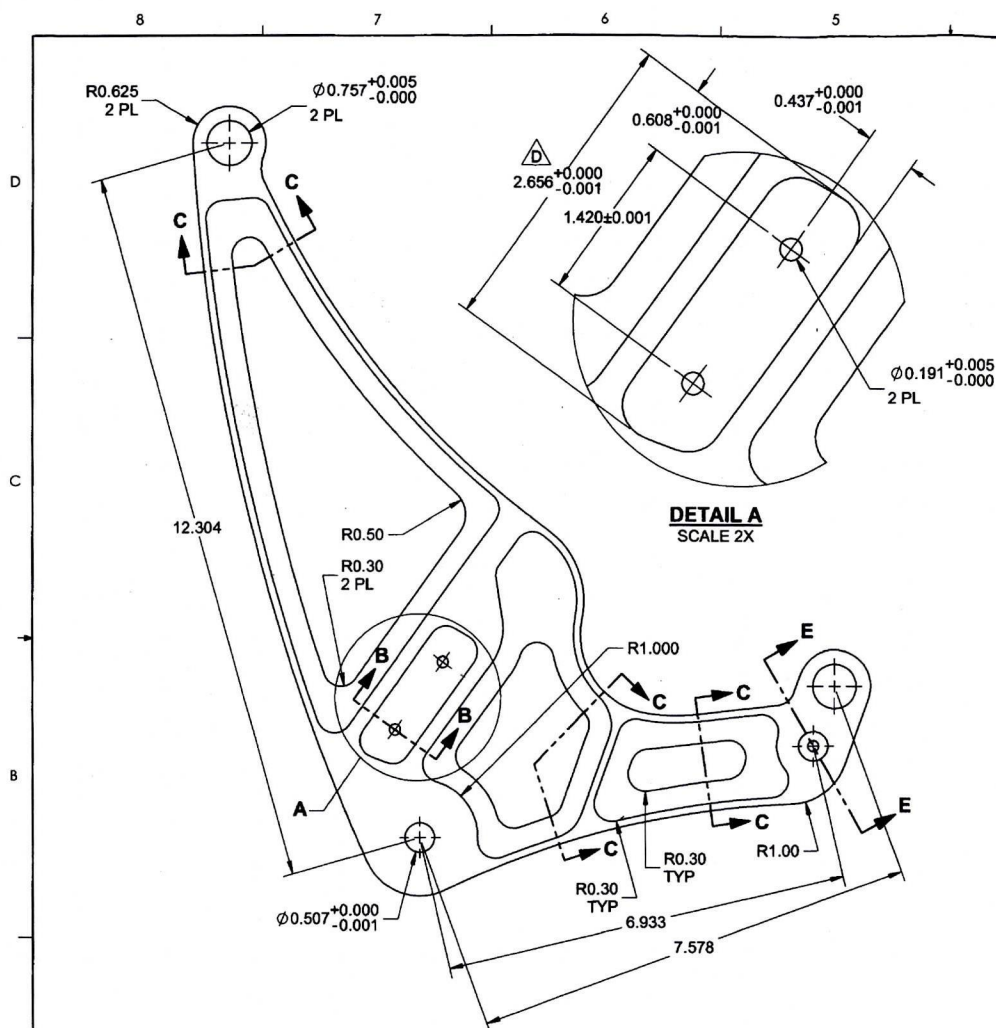
2016 JUN 22 *qp*

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: POWDER COAT "GLOSS WHITE" (4.3.5.1) OR "GREY SANDEXT" (4.3.5.6) OR "BLACK SANDEXT" (4.3.5.7) OR "GREEN SANDEXT" (4.3.5.8) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER DART QSI 044 6.1
- 7) WEIGHT: 1.37 lbs
- 8) PRESS D2805-X AND D2809 INTO PLACE PRIOR TO POWDER COAT
- 9) INSTALL BOLT WITH LPS-3 CORROSION INHIBITOR, ENSURE NO LPS-3 ON THREADS

APPROVED

DESIGN	CP	DART AEROSPACE LTD	
DRAWN	MB	HAWKESBURY, ONTARIO, CANADA	
CHECKED	ML	DRAWING NO.	REV. D
MFG. APPR.	JLM	D2804	SHEET 2 OF 4
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	STA 155 BRACKET	NTS
DATE	16.04.11	COPYRIGHT © 2000 BY DART AEROSPACE LTD	
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D2804-1 STA 155 BRACKET

NOTES:

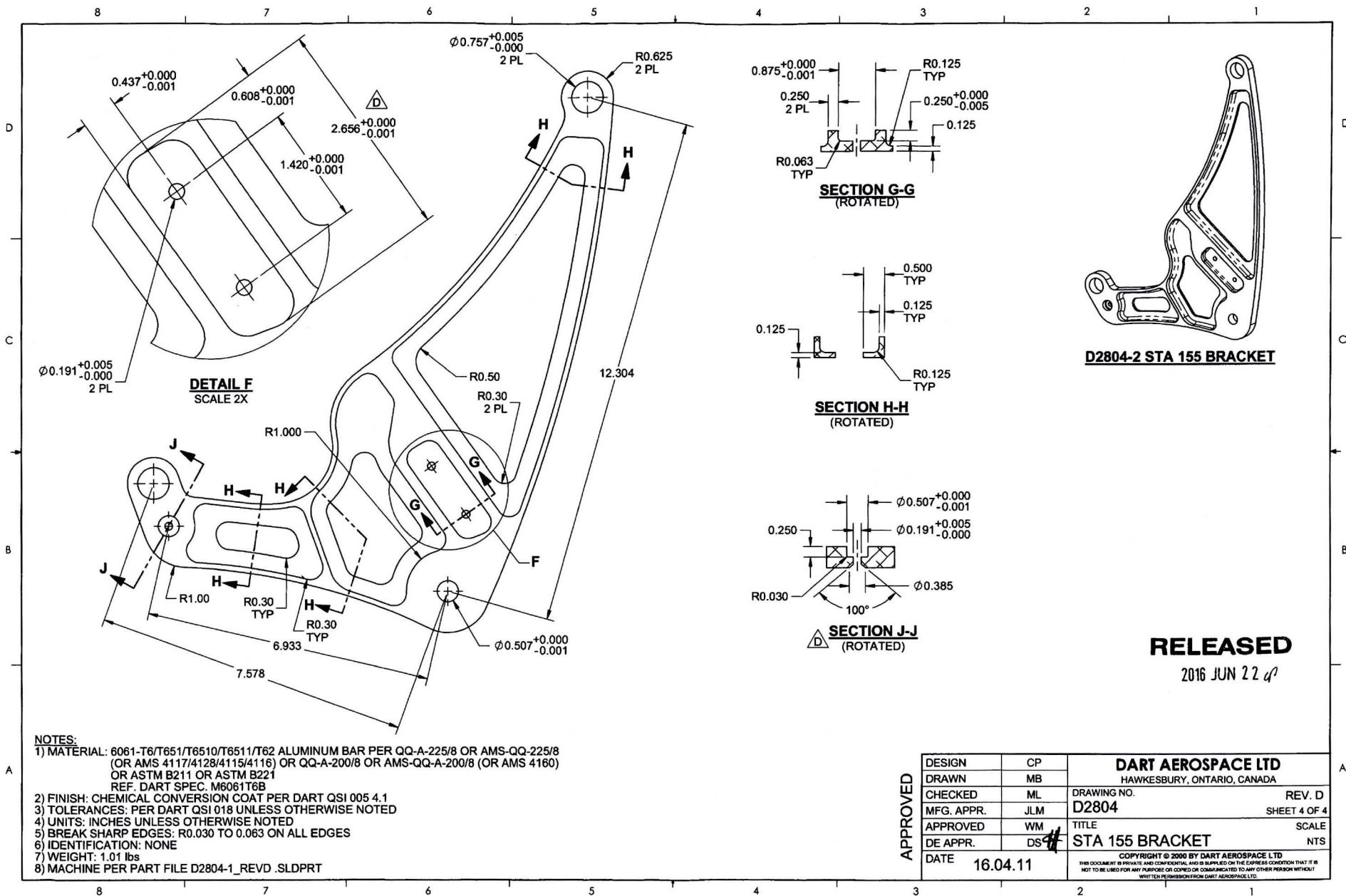
- 1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ-225/8 (OR AMS 4117/4128/4115/4116) OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160) OR ASTM B211 OR ASTM B221
REF. DART SPEC. M6061T6B
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: R0.030 TO 0.063 ON ALL EDGES
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 1.01 lbs
- 8) MACHINE PER PART FILE D2804-1_REV.D.SLDPR

APPROVED

DESIGN	CP	DART AEROSPACE LTD	
DRAWN	MB	HAWKESBURY, ONTARIO, CANADA	
CHECKED	ML	DRAWING NO.	REV. D
MFG. APPR.	JLM	D2804	SHEET 3 OF 4
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	STA 155 BRACKET	NTS
DATE	16.04.11	COPYRIGHT © 2000 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

RELEASED

2016 JUN 22 qf



DART AEROSPACE LTD		Work Order:	149397
Description: Bracket		Part Number:	D2804-1
Inspection Dwg: D2804	Rev: C		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.757	+0.005/-0.000	.759	✓		SLIO	VerN
Ø0.191	+0.005/-0.001	.192	✓			
1.420	+/-0.001	1.420	✓			
Ø0.507	+0.000/-0.001	.5065	✓			
0.250 deep	+/-0.010	.249	✓			
Ø0.507	+0.000/-0.001	.5065	✓			
Ø0.191	+0.005/-0.000	.192	✓			
6.933	+/-0.010	6.933	✓			
7.578	+/-0.010	7.578	✓			
12.304	+/-0.010	12.304	✓			
0.125	+/-0.010	.124	✓			
0.500	+/-0.010	.499	✓			
0.125	+/-0.010	.129	✓			
0.250	+/-0.010	.248	✓			
0.875	+0.000/-0.001	.8745	✓			
0.250	+0.000/-0.005	.247	✓			

Measured by:	DAS 20 9-89	Audited by:	DAS 33 9-89	Prototype Approval:	N/A
Date:	16-08-18	Date:	16/08/20	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	05.04.25	New Issue	KJ/JLM	
B	06.06.05	Removed dimensions 12.625, 0.608, 0.437, 2.654	KJ/EC	
C	06.11.10	Revised per drawing revision C	KJ/JLM	
D	09.03.10	Tolerance revised for Ø0.757	KJ/DD	